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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,733	07/10/2000	John T. Kennedy	DES-0003	9288

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[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2828

DATE MAILED: 01/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/612,733	KENNEDY ET AL.
	Examiner	Art Unit
	Cornelius H. Jackson	2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 August 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 and 35-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-30 and 35-39 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 August 2002 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3,5,6,10</u> .	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Acknowledgment

1. Acknowledgment is made that applicant's Amendment, filed on 29 August 2002, has been entered. Upon entrance of the Amendment, claims 1-10, 16, 20-25, 28-30, 35 and 36 were amended, claims 31-34 were cancelled, and claim 39 was added. Claims 1-30 and 35-39 are now pending in this application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second mirrors included in the periscope housing and the two lens telescope must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-30 and 35-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Regarding claims 1, 21 and 25, the word(s) "whereby/wherein" renders the claim indefinite because it has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957). Claims 2-20, 22-24, 26-30 and 35-39 are rejected since they depend on an indefinite base claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-22, 24-30 and 35-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Hart et al. (6192061).

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Hart et al. disclose a standing wave laser **Figs. 8-17** comprising a housing **24** defining a plurality of compartments therein; a plurality of mirrors **45, 47, 49,51** disposed within the housing **24** defining an optical cavity; an optical, dielectric waveguide structure **36** disposed within the optical cavity, the waveguide structure **36** including a plurality of waveguide channels **37 a-d** formed therein and configured so as to form a pattern of folded optical waveguide channels intersecting at the ends thereof subtending thereby an oblique waveguide angle between adjacent waveguide channels of less than fifteen degrees **see claims 22 and 46**, the waveguide channels having a substantially rectangular or square cross section for guiding a laser beam therealong **Fig. 17**; a plurality of electrodes **32, 38** disposed within the plurality of compartments and positioned along opposite surfaces of the waveguide structure **36** so as to enclose the waveguide channels **37 a-d**; wherein at least one electrode is in contact with gas discharge within the waveguide channels; and a shield **133** disposed between the plurality of compartments for providing electrical or radio frequency isolation of the gas discharge and the plurality of electrodes **32, 38** from one another.

Regarding claim 2, Hart et al. disclose the shield is a radio frequency shield, **see col. 5, lines 5-31.**

Regarding claims 3-10 and 17-19, Hart et al. disclose all the stated limitations, **see Figs. 1, 8, 12A-C and 17 and col. 5, line 5-col. 9, line 44.**

Regarding claims 11-16 and 20, Hart et al. disclose a heat exchanger and all the other stated limitations, **see Fig. 8 and col. 5, lines, 32-60 and col. 10, line 53-col. 11, line18.**

Regarding claim 21, see claim 1 above.

Regarding claim 22, Hart et al. disclose all the stated limitations, **see col. 14, lines 54-67.**

Regarding claim 24, Hart et al. disclose all the stated limitations, **see Fig. 17.**

Regarding claims 25-27, Hart et al. disclose an optical assembly mounted to the laser, **see Figs. 13-15 and col. 8, lines 29-65.**

Regarding claim 28, Hart et al. disclose all the stated limitations, **see col. 5, lines 5-60 and col. 7, line 66-col. 8, line 28.**

Regarding claim 29, Hart et al. disclose all the stated limitations, **see Fig. 17.**

Regarding claim 30, Hart et al. disclose all the stated limitations, **see Fig. 38.**

Regarding claims 35-38, Hart et al. disclose all the stated limitations, **see Fig. 8 and col. 5, lines 6-15 and col. 6, lines 62-66.**

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hart et al. (6192061). Hart et al., as applied above, teach all the stated limitations except for the laser having a Fresnel number in both the width and height direction defined by a given equation, instead, Hart et al. teaches obtaining good mode quality through the placement of vent openings. Therefore, because these two methods were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute one method for the other. Also, it has been held that “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Response to Arguments

10. Applicant's arguments with respect to claims 1-30 and 35-39 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Andringa (3982204) and Conder et al. (4662958) disclose a standing wave laser comprising a housing, a plurality of mirrors, a plurality of electrodes, a folded cavity and waveguide with channels.

Chenausky et al. (4438514) and Murray et al. (5740195) disclose a standing wave laser comprising a housing with a plurality of compartments, a plurality of mirrors, a plurality of electrodes, a folded cavity and waveguide with channels.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (703) 306-5981. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

CHJ
chj
January 10, 2003

Paul Ip
PAUL IP
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